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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,790	03/18/2004	Sheng Chuan Peng	MR1035-1434	4601
4586	7590	09/20/2005	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			LAU, HOI CHING	
			ART UNIT	PAPER NUMBER
			2636	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/802,790		PENG ET AL.	
	Examiner		Art Unit	
	Hoi C. Lau		2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1- 12 have been examined.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the structure of "light foil" in claim 1 and 7, and "exhaust" of the radiator in claim 6 and 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welch et al. (U.S. 2004/0065645) in view of Chrisco (U.S. 5,351,035)

Regarding **claim 1**, Welch's device teaches a cooling system and monitoring for semiconductor manufacturing equipment (page 2, paragraph 29 and 33-34), however, it fails to show the warning system of equipment comprises a contact detecting apparatus.

Chrisco's device comprises:

a contact detecting apparatus 33 (column 3, lines 34-66);

a light foil (35) floating with dissipating airflow in one end, when the cooling system is operated normally, the light foil is blown by dissipating airflow to touch the contact detecting apparatus, when the cooling system is operated abnormally, the light foil (35) does not touch the contact detecting apparatus; and

a warning apparatus connected with the contact detecting apparatus, when the light foil does not touch the contact detecting apparatus, the warning apparatus will send a warning signal (column 4, lines 34-47).

It would have been obvious to one of ordinary skill in the art to implement Chrisco's detecting apparatus and warning system into Welch's which uses a contact detecting switch instead of a temperature sensor to monitor the airflow within the chamber in order to monitor the normal operation of the cooling system because it would minimize the use of extra sensor within the system where it is directly sensing the airflow of cooling system.

As to **claim 2**, Welch's device teaches the warning system is installed on the semiconductor manufacturing equipment having the radiator composed of at least one fans (abstract).

As to **claim 3**, Chrisco's device teaches the warning signal is an audio signal (column 4, lines 34-47).

As to **claim 4**, Chrisco's device teaches the warning signal is a light (column 4, lines 34-47). However, it fails to show the light is flashing.

It would have been obvious to one of ordinary skill in the art to modify the light able to flash when warning signal occur because it would draw a additional sense to the operator of caution.

As to **claim 6**, Chrisco's device teaches the warning system is equipped the light foil (35) and the contact detecting (33) apparatus at airflow outlet of the cooling system, and all of the contact detecting apparatus are connected to the same warning apparatus.

It would have been obvious to one of ordinary skill in the art the airflow outlet is an exhaust.

Regarding **Claim 7**, it is claim corresponding to an apparatus claim 1 and it is therefore rejected for the similar reasons set forth in the rejection of claim 1, supra.

As to **Claim 8**, it is claim corresponding to an apparatus claim 2 and it is therefore rejected for the similar reasons set forth in the rejection of claim 2, supra.

As to **Claim 9**, it is claim corresponding to an apparatus claim 3 and it is therefore rejected for the similar reasons set forth in the rejection of claim 3, supra.

As to **Claim 10**, it is claim corresponding to an apparatus claim 4 and it is therefore rejected for the similar reasons set forth in the rejection of claim 4, supra.

As to **Claim 12**, it is claim corresponding to an apparatus claim 6 and it is therefore rejected for the similar reasons set forth in the rejection of claim 6, supra.

4. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welch (U.S. 2004/0065645) in view of Chrisco (U.S. 5351035) in view further of Donohue et al. (U.S. 2005/0115824).

As to **claim 5**, the combination meets all the limitation of claims except it fails to show the warning is connected to console of the semiconductor manufacturing equipment.

Donohue 's device teaches an alarm signal and message can be sent to an operator (page 7, paragraph 86).

It would have been obvious to one of ordinary skill in the art the operator is station at console during manufacturing process and the warning signal is being send to the console for caution.

As to **Claim 11**, it is claim corresponding to an apparatus claim 5 and it is therefore rejected for the similar reasons set forth in the rejection of claim 5, supra.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baudry (U.S. 5,612,677) teaches a system to monitor the temperature of an integrated circuit and to dissipate heat generated thereby includes a heat sink to overlie the integrated circuit. A fan overlies the heat sink and draws air across and then away for the heat sink to cool it. Mayer (U.S. 4,040,042) teaches an exhaust apparatus has a housing with a tiltable front wall and a tiltable bottom wall. The front wall carries the fan unit proper with its drive motor and filter and the tiltable bottom wall may be provide with a light. In order to monitor the operation of the fan in response to contamination of a filter, there is provided a membrane switch which responds to a predetermined reduced pressure in a space between the filter an the exhaust fan. Hedger et al. (U.S. 5,781,116) shows a flow alarm includes an airflow switch that is closed responsive to flow of air through an associated conduit.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoi C. Lau whose telephone number is (571)272-8547. The examiner can normally be reached on M- F 8:30am - 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571)272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HCL



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